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EXAMINER

CANELLA, KAREN A

ART UNIT

PAPER NUMBER

1642

DATE MAILED: 09/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/029,988

Applicant(s)

LEVANON ET AL.

Examiner

Karen A Canella

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-98 is/are pending in the application.
- 4a) Of the above claim(s) 58-60, 68-71 and 81-97 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-28 and 32-48 is/are rejected.
- 7) ☐ Claim(s) 29-31, 49-57, 61-67, 72-80 and 98 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 6/04+4/04+1/03+ 8/2
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____

DETAILED ACTION

1. Acknowledgment is made of applicant's election with traverse of Group I drawn to antibody multimers. The traversal is on the grounds that the restriction is improper as applicant contends that all the Groups can be examined with together without serious burden on the examiner. This has been considered but not found persuasive. Groups I-IV are drawn to antibodies. Groups V-VIII are draw to methods of treatment comprising the administration of antibodies. Methods of using the antibodies are separable from the antibodies as a product, if the antibodies can be used in a materially different method. In the instant case the antibodies can be used in a process to make an anti-idiotypic antibodies. It is noted that Claims 1-30, 32-47, 49, 52, 53, 55-57, 612-63, 65-67, 75-77, 79, 80 and 98 link inventions I-IV and claims 81, 89-94, 96-97 link inventions V-VIII. To reiterate from the previous restriction requirement, applicant is advised that the restriction requirement as to the linked inventions will be withdrawn upon allowance of the linking claims. Thus the separation of Inventions I-IV is subject to the non-allowance of the linking claims and the separation of Inventions V-VIII is also subject to the non-allowance of the linking claims. The restriction requirement is deemed proper and adhered to. The restriction is therefore made final.

2. Claims 1-98 are pending. Claims 58-60, 68-71 and 81-97, drawn to non-elected inventions, are withdrawn from consideration. Claims 1-57, 61-67, 72-80 and 98 are examined on the merits.

Priority

3. Acknowledgement is made of applicant's claim to an earlier effective priority date via provisional application 60/258,948. However, said provisional application, although providing a written description of antibodies comprising a first hypervariable region comprising SEQ ID NO:8, does not provide any description of the genus of epitopes claimed, or the specific ligand of the phagemid clone Y1 which comprises SEQ ID NO:8. The provisional application states that Y1 binds to many leukemia cells but does not bind to the corresponding normal hematopoietic cell (page 96, lines 15-17, page 100, paragraph 8.4, and page 105, Table 11), but does not

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disclose the epitope, protein or motif which is specifically bound by the antibody. Accordingly, claims 1-57, 61-67, 72-80 and 98 are given the effective priority date of the instant filing on December 31, 2001. Claims 32 and 48 are not supported by the provisional specification, because the provisional does not disclose an antibody multimer and further because the provisional does not disclose that the antibody multimer cross reacts.

Claim Objections

4. Claims 29-31, 49-57, 61-67, 72-80 and 98 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend on other multiple dependent claims. See MPEP § 608.01(n). Accordingly, the claims 29-31, 49-57, 61-67, 72-80 and 98 not been further treated on the merits.

5. Claims 37, 39-43 and 45 are objected to for lacking sequence identifiers. Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 4 recite "P is (A)_m(A)_n(X)_u or (X)_u(A)_n(A)_m or (A)_n(X)_u(A)_m or (A)_n(A)_m(X)_u or (X)_u(A)_m(A)_n or (A)_m(X)_u(A)_n", wherein A is any negatively charged amino acid or L, I, P, F, S or G. It is unclear if the content of "(A)" must be identical for (A)_m and (A)_n or if the content of "(A)" can be independently selected from any negatively charged amino acid or L, I, P, F, S or G. For purpose of examination, both alternatives will be considered.

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Claims 1 and 4 recite a formula comprising (W)_z-P-(Y*)_t-P, wherein *=(S)_r. It is unclear if the content of both "P"s must be identical or independently selected. For purpose of examination, both alternatives will be considered.

Claims 2 and 5 recite "A is Glutamate, gamma carboxyl Glutamate or Aspartate". It is unclear if all of the A included in (A)_m and (A)_n must be Glu, g-Glu or Asp or if only a single A need be Glu, g-Glu or Asp. For purpose of examination, the limitation will be applied to both alternatives.

Claim 7 is vague and indefinite in the recitation of "X is any amino acid except the above". It is unclear if "the above" refers to what is immediately above, such as the "sulfated molecule" or if "X" refers to the "the above" collectively to exclude G, E, D Y and "the sulfated molecule".

8. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

9. Claims 32-34 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention..

Claim 32 is drawn to an antibody dimer comprising a first and a second antigen binding fragment wherein said first or second antigen binding fragment or both comprise a hypervariable region of SEQ ID NO:8. Claim 33 is drawn to an antibody dimer comprising a first and a second antigen binding fragment wherein said first or second antigen binding fragment or both comprise a hypervariable region of SEQ ID NO:20. Claim 34 is drawn to the antibody dimers of claims 32 or 33 wherein said first or second antigen-binding fragment or both comprise a second hypervariable region comprising SEQ ID NO:115 and/or a third hypervariable region comprising SEQ ID NO:14.

It is well established in the art that the formation of an intact antigen-binding site generally requires the association of the complete heavy and light chain variable regions of a given antibody, each of which consists of three CDRs which provide the majority of the contact residues for the binding of the antibody to its target epitope (Paul, Fundamental Immunology, (textbook), 1993, pp. 292-294, under the heading "Structure and Diversity in Three Dimensions").. The amino acid sequences and conformations of each of the heavy and light chain CDRs are critical in maintaining the antigen binding specificity and affinity which is characteristic of the parent immunoglobulin. It is expected that all of the heavy and light chain CDRs in their proper order and in the context of framework sequences which maintain their required conformation, are required in order to produce a protein having antigen-binding function and that proper association of heavy and light chain variable regions is required in order to form functional antigen binding sites(Paul, page 293, first column, lines 3-8, and line 31 to column 2, line 9 and lines 27-30). It is unlikely that the antibody multimers which minimally comprise SEQ ID NO:8 or SEQ ID NO:20 as defined by the claims which may contain less than the full complement of three CDRs from the heavy and light chain variable regions will exhibit the same binding function.. The specification provides no direction or guidance regarding how to produce the broadly defined antibody multimers which need only minimally comprise SEQ ID NO:8 or SEQ ID NO:20 as broadly defined by the claims. Undue experimentation would be required to produce the invention commensurate with the scope of the claims from the written disclosure alone. One of skill in the art would neither expect nor predict the appropriate functioning of the antibody as broadly as is claimed. Therefore, in view of the lack of guidance in the specification and in view of the discussion above one of skill in the art would be required to perform undue experimentation in order to practice the claimed invention .

10. Claims 32-34 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. .

Claims 32 is drawn to an antibody multimer which minimally comprises the CDR region of SEQ ID NO:8. Claim 33 is drawn to an antibody multimer which minimally comprises SEQ ID NO:20. Claim 34 encompass antibodies which minimally comprise the hypervariable region sequences of SEQ ID NO:8 and SEQ ID NO:115 or SEQ ID NO:8 and SEQ ID NO:114, or SEQ ID NO:20 and SEQ ID NO:115 or SEQ ID NO:20 and SEQ ID NO:114. It is well established in the art that the formation of an intact antigen-binding site generally requires the association of the complete heavy and light chain variable regions of a given antibody, each of which consists of three CDRs which provide the majority of the contact residues for the binding of the antibody to its target epitope (Paul, Fundamental Immunology, (textbook), 1993, pp. 292-294, under the heading "Structure and Diversity in Three Dimensions"). The amino acid sequences and conformations of each of the heavy and light chain CDRs are critical in maintaining the antigen binding specificity and affinity which is characteristic of the parent immunoglobulin. It is expected that all of the heavy and light chain CDRs in their proper order and in the context of framework sequences which maintain their required conformation, are required in order to produce a protein having antigen-binding function and that proper association of heavy and light chain variable regions is required in order to form functional antigen binding sites (Paul, page 293, first column, lines 3-8, and line 31 to column 2, line 9 and lines 27-30). It is unlikely that the antibody multimers which minimally comprise SEQ ID NO:8 or SEQ ID NO:20 as defined by the claims which may contain less than the full complement of three CDRs from the heavy and light chain variable regions will exhibit the same binding function. Thus, it can be concluded that by one of skill in the art that the possession of one or two hypervariable regions alone does not serve to qualify the epitope or protein to which the antibody binds. Thus the genus of antibody multimers encompassed by the claims is highly variable. The specification sets forth the clone Y1 of SEQ ID NO:25 which comprises the CRD3 of SEQ ID NO:8, and the Y17 clone of SEQ ID NO:203, which comprises the CRD3 of SEQ ID NO:20. This disclosure does not adequately describe the genus of antibody multimers claimed because said genus includes antibodies and antigen-binding fragments which minimally comprise SEQ ID NO:8 or SEQ ID NO:20 without the remainder of the Y1 and Y17 sequence which would comprise CDR2, and CDR1, and thus said antibody multimers would not be expected to have the same binding function as the Y1 clone or the Y17 clone. Further, the claims are not limited to a genus

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of antibodies which comprise the CDR3 region of SEQ ID NO:8 or the CDR3 region of SEQ ID NO:20 because said limitation is not found in the claims, and when given the broadest reasonable interpretation, SEQ ID NO:8 or SEQ ID NO:20 can be either of CDR3, CDR2 or CDR1. One of skill in the art would reasonably include that applicant was not in possession of the claimed genuses of antibody multimers.

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

12. Claims 1, 2, 4, 5, 9, 10, 12, 17, 19, 26, 35, 36, 38-44 and 46-48 are rejected under 35 U.S.C. 102(b) as being anticipated by Ward et al (Biochemistry, 1996, Vol. 35, pp. 4929-4938, reference of the IDS filed January 27, 2003).

Claim 1 is drawn to an antibody multimer which binds to an epitope comprising Formula I. Claim 2 embodies the antibody-multimer of claim 1 comprising the epitope wherein W is Gly, Y is a peptido conjugate of Tyr, A is Glu, gamma-carboxyl Glu or Asparate. Claim 4 embodies an antibody multimer comprising Formula II. Claim 5 embodies the antibody multimer of claim 4 wherein the epitope comprises W is Gly, Y is a peptido conjugate of Tyr, or a glyco conjugate of Asp, Ser or Thr, A is Glu, gamma-carboxyl Glu or Asp. Claim 9 embodies the antibody multimer of claims 1 or 4 wherein the multimer is a dimer, trimer or tetramer. Claim 10 embodies the multimer of claim 9 wherein the multimer is a dimer. Claim 12 embodies the dimer of claim 10 wherein the first and second antigen binding fragments are linked by a disulfide bridge. Claim 17 embodies the multimer of claim 9 wherein the multimer is a trimer. Claim 19 embodies the trimer of claim 18 wherein the antigen-binding fragments are linked by a polypeptide linker. Claim 26 embodies the multimer of claim 9 comprising identical antigen-binding fragments. Claim 35 is drawn to an antibody multimer comprising a first and a second antigen-binding fragment, wherein said first or second antigen binding fragment is capable of cross reacting with two or more epitopes, each epitope comprising one or more sulfated tyrosine

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residues and at least one cluster of two or more acidic amino acids. Claim 36 embodies the multimer of claim 35 wherein said multimer is capable of cross reacting with PSGL-1. Claim 38 embodies the antibody multimer of claim 35 wherein the multimer is capable of cross-reacting with GP1b-alpha. Claim 39 embodies the multimer of claim 35 that binds to DEGDTDLYDYYPEEDTEGD, wherein at least one tyrosine residue is sulfated. Claim 40 embodies the multimer of claim 35 that binds to TDLYDYYPEEDTE, wherein at least one tyrosine residue is sulfated. Claim 41 embodies the multimer of claim 35 that binds to DEGDTDLYDYYP, wherein at least one tyrosine residue is sulfated. Claim 42 embodies the antibody multimer of claim 35 that binds to YDYYP, wherein at least one tyrosine residue is sulfated. Claim 43 embodies the multimer of claim 35 that binds to TDLYDYYP, wherein at least one tyrosine residue is sulfated. Claim 44, 46 and 47 embody the multimer of claim 35 wherein the multimer is capable of cross reacting with fibrinogen-gamma prime, heparin and complement compound 4, respectively. Claim 48 embodies the multimer of claim 35 that is capable of cross-reacting with at least one cell selected from the group consisting of B-CLL cells, AML cells, multiple myeloma cells and metastatic cells.

Ward et al disclose antibody SZ2 which binds the epitope of Tyr-276 to Glu-282, YDYYPEE (4935, first column, lines 19-21) of GP1b-alpha, which fulfills the specific embodiment of claims 35, 39, 40 and 42 as the YDYYPEE epitope is comprised within the sequences of claims 39 and 40. The SZ2 antibody also fulfills the specific embodiments of claims 1, 2, 4 and 5 because the epitope the peptide comprises the sequence YDYYPEE which was disclosed by Ward et al to be 90% sulfated on Tyr 278 and 279 and 50% sulfated on Tyr 282. Ward et al disclose the peptide of DEGDTDLYDYYPEEDTEGD (page 4930, first column, line 44) which fulfills the specific embodiments of claims 4 and 5 with (Y)_r=0, because z=1, (W)_z=Gly, P(first)=Asp-Thr-Asp as (A)_n(X)_u(A), P(second)=Leu as (A)_n, wherein m and u=0, sulfo-Tyr, P(third) as (A)_n=Asp, wherein m and u=0, t=2 and (Y)_t=sulfo-Tyr-sulfo-Tyr, P(forth)=Pro-Glu-Glu-Asp as (X)_u(A)_n(A)_m, wherein u and m=1 and n=2 and (X)_u=Pro, (A)_n=Glu and (A)_m is Asp. Said epitope also fulfills the specific embodiment of claims 1 and 2 wherein z=0, P(first)=(A)_n(X)_u(A)_m, wherein, n=u=m=1 and wherein (A)_n=Asp, (X)_u=Thr and (A)_m=Asp; t=1 and (Y)_t=sulfo-Tyr; and wherein P(second)=(A)_m(A)_n(X)_u, wherein n and u are

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0 and wherein (A)_m is Asp. The claims also fulfill the specific embodiments of claim 2 because W is Gly, Y is sulfo-Tyrosine, one "A" is Asp, and q is 1.

It would be inherent in the binding affinity of the SZ2 antibody that it would cross-react with epitopes comprising DEGD_{TD}LYDYYP and TDLYDYYP, wherein at least one tyrosine residue is sulfated; it would also be inherent in the binding affinity of the SZ2 antibody that it would bind to at least one cell selected from the group consisting of B-CLL cells, AML cells, multiple myeloma cells and metastatic cells and that it would cross react with fibrinogen-gamma prime, heparin and complement compound 4, because the structure of the antibody determines its binding specificity and cross-reactivity.

Ward et al also anticipates multimers which are dimers or trimers, because when given the broadest reasonable interpretation the SZ2 antibody is a dimer in that it has two identical heavy chain and light chain proteins as the first and the second antigen binding fragments which are linked by a natural disulfide bridge inherent in the structure of the antibody, thus anticipating claims 9, 10, 12 and 26. The SZ2 antibody is also a trimer comprising three CDR regions, which are antigen-binding regions, on either the heavy chain or light chain, wherein said CDR regions are linked by polypeptides which fulfill the specific embodiments of a polypeptide linker of claims 17 and 19.

13. Claims 1, 2, 9, 10, 12, 17, 19, 26, 35, 36, 38-44 and 46-48 are rejected under 35 U.S.C. 102(b) as being anticipated by Snapp et al (Blood, 1998, Vol. 91, pp. 154-164, reference of the IDS filed January 27, 2003).

Snapp et al disclose the monoclonal antibody KPL1 which binds to amino acids residues 5-11 (YEYLDYD) of PSGL-1, wherein at least one tyrosine is sulfated (page 161, second column, lines 7-10, page 162, second column, lines 39-41 and page 157, first column, lines 10-12), thus fulfilling the specific embodiments of claims 35-37 because the YEYLDYD epitope is comprised within the sequences of claims 36 and 37. The peptide of YEYLDYD fulfills the specific embodiments of claim 1 with z=0, m and u=0 and P(first) is (A)_n=Glu and P(second)=(A)_n(A)_m(X)_u, wherein n=1, m=1 and u=0 and therefore (A)_n=Leu and (A)_m=Asp. Snapp et al also disclose that the KPL1 antibody binds to human myeloma cells (page 160,

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second column, lines 8-10), thus fulfilling the specific embodiment of claim 48, specifying multiple myeloma cells.

It would be inherent in the binding affinity of the KPL1 antibody that it would cross-react with epitopes comprising DEGDTLDYDYYPEEDTEGD and YDYYPEE, wherein at least one tyrosine residue is sulfated; it would also be inherent in the binding affinity of the KPL1 antibody that it would cross react with fibrinogen-gamma prime, heparin and complement compound 4, because the structure of the antibody determines its binding specificity and cross-reactivity.

Snapp et al also anticipates multimers which are dimers or trimers, because when given the broadest reasonable interpretation the KPL1 antibody is a dimer in that it has two identical heavy chain and light chain proteins as the first and the second antigen binding fragments which are linked by a natural disulfide bridge inherent in the structure of the antibody, thus anticipating claims 9, 10, 12 and 26. The KPL1 antibody is also a trimer comprising three CDR regions, which are antigen-binding regions, on either the heavy chain or light chain, wherein said CDR regions are linked by polypeptides which fulfill the specific embodiments of a polypeptide linker of claims 17 and 19.

Double Patenting

14. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).


15. Claims 1-28 and 32-48 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 18-21 and 23-117 of copending Application No. 10/032,423. Although the conflicting claims are not identical, they are not patentably distinct from each other because the instant antibody multimers comprise the individual antibodies of the co-pending application. Thus the instant antibody multimers are obvious variants over the antibodies of the '423 application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karen A Canella whose telephone number is (571)272-0828. The examiner can normally be reached on 10 a.m. to 9 p.m. M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Siew can be reached on (571)272-0787. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


KARENA. CANELLA PH.D
PRIMARY EXAMINER

Karen A. Canella, Ph.D.

9/7/2004